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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,068	12/05/2003	Jeffrey Merwin	76288-88036	9191
22807	7590	06/01/2006	EXAMINER	
GREENSFELDER HEMKER & GALE PC SUITE 2000 10 SOUTH BROADWAY ST LOUIS, MO 63102			WEST, PAUL M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/729,068

Applicant(s)

MERWIN, JEFFREY

Examiner

Paul M. West

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 and 11 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-10 is/are allowed.
- 6) ☒ Claim(s) 12-14 and 17-21 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 12-14 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over John in view of Raphael and Murray et al. (6,688,329).
2. As to claims 12 and 17-20, John teaches a method comprising the steps of: introducing a signal into a fluid-receiving space 30 such that the signal is present for sensing within fluid at a predetermined level, the signal being transmitted through the fluid receiving space 30 according to a value of electric conductivity of the fluid; providing a probe 34 at the predetermined level for sensing the signal; sensing for the presence of the signal within the fluid at the predetermined level; and providing a control function in response whether the signal is so sensed, in order to indicate whether the fluid is or is not present at the predetermined level wherein the control function is an indication that fluid is lower than the predetermined level (Col. 2, lines 47-51) and establishing a delay on make or a delay on break time for indicating that fluid is lower than the predetermined level (Col. 1, lines 62-68). John does not teach using a microprocessor to control functions of the apparatus, nor does John teach selectively adjusting the sensitivity of the probe.

3. Raphael teaches a method for sensing the presence or absence of a fluid at a predetermined level by detecting with a probe 16,17 a signal transmitted through the fluid and based on the electrical conductivity of the fluid, and for selectively adjusting the sensitivity of probe-responsive circuitry according the value of the conductivity of the fluid (Col. 9, lines 50-59). It would have been obvious to one of ordinary skill in the art to combine the teachings of Raphael with the method of John because adjusting the sensitivity allows the apparatus to be used with a larger and more diverse array of fluids while maintaining accurate measurements.

4. Murray et al. teach a method for determining whether a fluid is at a predetermined level in a fluid-receiving space in which a microprocessor is used to control sensing and control functions as well a delay on make or delay on break time (Col. 3, lines 66-67; Col. 4, lines 1-10). It would have been further obvious to combine the teachings of Murray et al. with the method of John because it is well-known that microprocessors allow for more accurate and efficient operation of measurement processes.

5. As to claim 13, John teaches using a signal-responsive probe 34 inserted into the fluid-receiving space 30 at the predetermined level.

6. As to claim 14, John teaches using an AC signal which is of a periodic nature (Col. 1, lines 36-41).

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pankow et al.

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8. As to claim 21, Pankow et al. teach a method of probe monitoring of a liquid in a vessel, comprising: introducing a bipolar periodic signal 413 to the vessel for being picked up by the probe; using a probe signal-responsive control 460 operable in response to sensing of the signal by the probe; processing of the signal in a pair of separate signal paths (420,430) for responding to different polarities of the bipolar signal (Col. 2, lines 20-24); signaling in response to proper operation of both of the signal paths, whereby signaling is a fail-safe operation (Col. 2, lines 34-51). Pankow et al. do not specifically teach signaling only when proper operation of both signal paths is present, however, it would have been obvious to one of ordinary skill in the art to only signal when both paths are operating because otherwise the method does not produce an accurate measurement signal, i.e. the apparatus requires signals from both paths to operate properly.

#### ***Allowable Subject Matter***

9. Claims 6-10 are allowed.
10. Claims 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

11. Applicant's arguments filed 6 April 2006 have been fully considered but they are not persuasive. Applicant has argued that the John reference does not teach a delay

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on make or a combination of a delay on make and a delay on break operation, however, claim 12 requires "a control function carried to determine **either** a delay on make **or** delay on break, **or** both a delay on make and delay on break" operation (bold added for emphasis). Note that the three limitations are listed in the alternative, so the claim only requires one of the three limitations, not all of them, and the John reference does teach a delay on break operation, as stated by Applicant in the Remarks, page 18, lines 18-19.

12. Regarding Applicant's remarks concerning claim 21, the claim has been examined in this office action. Note that claim 21 was not examined in the previous office action because the claims filed 19 September 2005 clearly show a claim status of "withdrawn" for claim 21.

### ***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul M. West whose telephone number is (571) 272-8590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800